

*REMARKS/ARGUMENTS*

In response to the Office Action mailed May 10, 2007 Applicants amend their application and request reconsideration. No claims are added or cancelled in this Amendment so that claims 1, 2, 5-10, 14, and 15 remain pending.

An Information Disclosure Statement bringing to the Examiner's attention two co-pending patent applications that are commonly assigned and have the same inventorship is being simultaneously filed with this Amendment. An indication in the next communication of consideration of the two published U.S. patent applications cited in the Information Disclosure Statement is respectfully requested.

In this Amendment, the two independent claims, claims 1 and 5, are amended to describe that the first-side and second-side light emitting devices produce light beams that are wider in a direction perpendicular to the scanning direction of the sheet-like object than in a direction parallel to the scanning direction. Further, the first-side and second-side light detecting devices are also described as having respective light detecting areas that are wider in the direction perpendicular to the scanning direction of the sheet-like object than along a direction parallel to that scanning direction. These amendments are clearly supported by the patent application as filed, for example, in the paragraph that begins at page 28 in line 12. Further, Figures 4A and 4B, described in that paragraph, show the area of the light beam E1 as being wider perpendicular to the scanning direction S1 than parallel to that direction. Figure 4B shows the same arrangement with respect to the light detecting areas having a width E2. As described in the paragraph at page 28 of the patent application, by employing these somewhat rectangular illumination and detection areas, the authenticity of the sheet-like object, for example, a monetary note, is accurately determined without being adversely affected by deformation of the note or differences in compositions of the surface of the note. In other words, unlike scanning of notes using point sources of light and corresponding light detectors, immunity to minor

defects in the planarity and local defects, for example, due to smudges, dirt, or wear, is improved.

All pending claims were rejected as unpatentable over Ma et al. (U.S. Patent 6,486,464, hereinafter Ma) in view of Laskowski et al. (U.S. Patent 6,101,266, hereinafter Laskowski). This rejection is respectfully traversed.

In order to establish *prima facie* obviousness, it is essential that the publications sought to be combined include, in combination, all of the elements of an invention claimed. Here, Ma and Laskowski, considered together fail to meet that essential requirement. Both of the publications include both Ma and Laskowski as co-inventors and both are commonly assigned. Both publications describe apparatus for determining the authenticity of a sheet-like object, particularly currency, by directing light beams onto the object and detecting reflected and/or transmitted light. The light detected is then processed, as described in those publications, in order to determine the authenticity of the note.

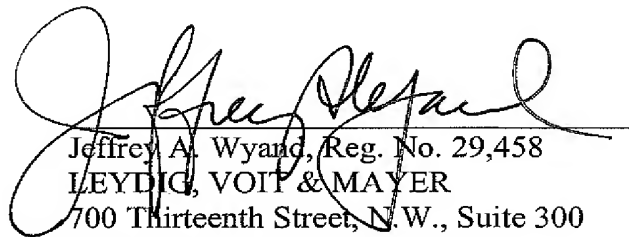
Many of the figures of Ma illustrate light sources and light detectors of which the light source 14 and the detector 20 of Figure 1 are exemplary. The light sources and light detectors appear to be point sources and are described, for example, in column 5 in the paragraph beginning in line 3, as light emitting diodes. The photodetectors are described in that paragraph as photodiodes or phototransistors. It is apparent from fundamental knowledge in the relevant arts that the light sources are point sources that produce essentially symmetrical beams. There is no description of the particular structure of the photodiodes or phototransistors in Ma so that any conclusion concerning the light detecting area and its shape would be entirely speculative. In other words, there is no description in Ma that the light sources produce light beams having the unsymmetrical aspect ratio described in the pending claims for both the first-side and second-side light emitting devices. There is no disclosure in Ma from which one can even determine the aspect ratio of light detecting area detectors that might correspond to the first-side and second-side light detecting devices of the pending claims.

Laskowski does not supply any information that supplements Ma in a way that could establish *prima facie* obviousness of any pending claim.

Although not determinative, the symbols used to indicate light emitters and light detectors, for example in Figure 2 of Laskowski, are similar to those of Ma. There is some indication in that figure that the area illuminated, each "test spot 34," is circular. That description confirms that none of the light emitting elements of Laskowski produces illumination over an area that has different dimensions in two orthogonal directions, like the light emitters of the claimed invention. The light emitters are identified in Figure 2 of Laskowski as light emitting diodes and the detectors are identified as photo cells. Beyond that description, there appears to be nothing pertinent in Laskowski with regard to the shape of the light being produced or the light detecting areas employed.

In summary, no combination of Ma and Laskowski can include all of the elements of the invention as described by the amended claims. Therefore, upon reconsideration, the rejection should be withdrawn and all pending claims allowed.

Respectfully submitted,

  
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